TECHNICAL REVIEW DOCUMENT
FOR RENEWAL OF
OPERATING PERMIT 03OPMR244
To be issued to:

Boral Material Technologies, Inc. – Pawnee Station
Morgan County
Source ID 0870011

Prepared January-July 2011
James Geier, Review Engineer

I. Purpose:

This document will establish the basis for decisions made regarding the Applicable Requirements, Emission Factors, Monitoring Plan and Compliance Status of Emission Units covered within the Operating Permit renewal proposed for this site. It is designed for reference during review of the proposed permit by the EPA and during Public Comment. The conclusions made in the report are based on information provided in the renewal application submittal of September 28, 2007 and December 18, 2009, e-mail correspondence and telephone conversations with the source. This narrative is intended only as an adjunct for the reviewer and has no legal standing.

Any revisions made to the underlying construction permits associated with this facility made in conjunction with the processing of this operating permit application have been reviewed in accordance with the requirements of Regulation No. 3, Part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This operating permit incorporates and shall be considered to be a combined construction/operating permit for any such revision, and the permittee shall be allowed to operate under the revised conditions upon issuance of this operating permit without applying for a revision to this permit or for an additional or revised construction permit.

The changes made to this permit were the revision of the responsible official and environmental contact names, the addition of magnesium chloride storage tanks as insignificant activities, and the addition of a screen and associated diesel generator.

II. Source Description:

Boral Material Technologies, Inc (BMTI) conducts ash conditioning, handling and blending operations at Public Service Company's Pawnee Station. Pawnee station is classified as an electric services facility under Standard Industrial Classification 4911. BMTI is a support facility for Pawnee Station and as such is considered a single stationary source with Pawnee Station for purposes of prevention of significant deterioration (PSD) review, Title V operating permit and MACT requirements. In addition, the Manchief Power Company, LLC operates the Manchief Generating Station

(01OPMR236), a natural gas fired combustion turbine plant, on the Pawnee site. Public Service Company (PSCo) and Manchief were issued separate Title V operating permits. The Title V operating permit issued to BMTI will address only the ash conditioning, handling and blending activities performed by BMTI. Ash conditioning, handling and blending operations include both fugitive and non-fugitive particulate matter emission sources.

The following is a description of the ash conditioning, handling and blending operations conducted by BMTI. Fly ash is transferred from the fly ash silo via enclosed screw conveyors to an enclosed conditioning system (pug mill) where water is added to create conditioned ash. The conditioned ash is then gravity transferred directly into a truck inside the ash conditioning (or MACS) building or onto the MACS building floor, then loaded onto trucks with a front-end loader. The conditioned ash is then hauled to an area (the PSCo ash pit) that serves as the storage and blending operation for bottom ash, conditioned ash, and rock. The bottom ash is hauled to the blending area from an on-site PSCo storage bay. The rock is hauled in from off-site. The bottom ash and conditioned ash (and rock, as needed) are blended and screened to create a beneficial reuse product – base course (e.g. road base). Finally, the base course is loaded and hauled off-site as product.

Included in this permit reissuance is the addition of a screen and associated diesel electric generator which are used to screen ash. The equipment is operated by Son Haul under contract to Boral, as such the equipment will be added to Boral's permit and they will assume responsibility for compliance with this permit. The equipment consists of: One (1) Powerscreen, Model: Turbochieftain, 2-Deck vibrating screen, design feed rated at 60 tons per hour and one (1) Deutz, Model: BF4M2012, Serial No.: DIN/ISO30461FN, distillate fuel oil fired, 4-stroke, turbocharged, compression ignition, reciprocating internal combustion engine, heat input rated at 0.56 MMBTU per hour, output rated at 80 HP. The equipment was originally issued a portable source construction permit (09PO0942) but is now part of the Boral facility for permitting purposes. The Division has inspected the crusher and engine in 2010 and they are in compliance with the permit terms contained in this permit.

This facility is located at 14940 County Road 24, near Brush in Morgan County, in an area designated as attainment for all criteria pollutants. There are no affected states within 50 miles of this facility. There are no Federal Class I designated areas within 100 kilometers of this facility.

This source (BMTI, Manchief and PSCo) is a major stationary source (Potential to Emit > 100 tons/year, because it is a listed source category) for purposes of PSD review. Future modifications to this facility which are in excess of significance levels as defined in Colorado Regulation No. 3, Part D, Section II.A.44, would result in a major modification and the application of PSD requirements. Facility wide (BMTI, Manchief and PSCo) emissions are as follows:

Pollutant	Potential to Emit (tons/yr)			Actual Emissions (tons/yr)		
	PSCo	BMTI	Manchief	PSCo (2007)	BMTI (2008)	Manchief (2004)
PM	2,501.7	23.44	133.0	213.5	22.93	1.91
PM_{10}	2,231.6	9.15	97.8	153.9	8.91	1.57
NO_X	11,765	N/A	812.7	4415.3	N/A	42.02
SO_2	28,176.9	N/A	8.02	14126.5	N/A	1.22
CO	754.7	N/A	314.9	598.6	N/A	18.17
VOC	91.5	N/A	44.4	73.7	N/A	1.01
HAPS	143.6	Negl.	11.78	61.5	Negl.	< reportable

Potential to emit and actual emissions for PSCo are the same values included in the most recent technical review document for their Pawnee operating permit. Potential to emit for BMTI is based on permitted emissions. BMTI reported potential emissions as actual emissions on the most recent APEN. It should be noted that the Title V operating permit issued to PSCo for Pawnee Station includes conditions for processing fly ash through the ash silo and depositing fly ash at the ash pit. Generally, processing of most of the fly ash at Pawnee Station is done by BMTI. Therefore, emissions from ash handling are "double counted" in that they are included in the PTE analysis and the operating permit for PSCo and also for BMTI. Emissions for Manchief are from the most recent technical review document for the operating permit.

Pawnee Station is subject to the provisions of Section 112(r) of the Federal Clean Air Act. 112(r) requires the submittal of a risk management plan (RMP) which was submitted to EPA in 1999. The provisions of Section 112(r) are not applicable to the ash conditioning, handling and blending operations performed by BMTI.

The facility (PSCo, Manchief and BMTI) is a major source for hazardous air pollutants (HAPS). However, there have been no MACT standards promulgated that apply to the BMTI operations.

Although the BMTI emission units utilize controls to reduce emissions, the pre-control potential to emit for the emission units are below the major source level and therefore the compliance assurance monitoring (CAM) requirements do not apply.

III. Emission Sources:

The following sources are specifically regulated under terms and conditions of the Operating Permit for this Site:

A. Unit MACS: AshTech Fly Ash Conditioning System, Model # M-16 and Associated MACS Building

1 Applicable Requirements –Fly ash is transferred from the fly ash silo via enclosed screw conveyors to an enclosed conditioning system (pug mill) where water is added to create conditioned ash. The conditioned ash is then gravity transferred directly into a dump truck or loaded via front end loader inside the ash conditioning (or MACS) building. Particulate matter emissions from the ash conditioning system and MACS building are not considered fugitive particulate matter emissions since the emissions pass through a stack. According to the Title V permit application, the ash conditioning system commenced operation in January 2002. Colorado Construction Permit 01MR0683 was issued for the ash conditioning, handling and blending operations on November 19, 2001 as an initial approval permit. For final approval, the source requested an increase in the throughput rate, and the emissions were increased to reflect the higher throughput rate. A final approval permit was issued for Colorado Construction Permit 01MR0683 on November 26, 2002. The appropriate applicable requirements from Colorado Construction Permit 01MR0683 for the ash conditioning system and MACS building are as follows:

- Visible emissions shall not exceed twenty percent (20%) opacity during normal operation of the source. During periods of startup, process modification, or adjustment of control equipment visible emissions shall not exceed 30% opacity for more than six minutes in any sixty consecutive minutes (condition 1 and Reg 1, Section II.A.1 and 4).

  Based on engineering judgment, the Division has not included the 30% opacity requirement for startup, process modification and adjustment of control equipment (Reg 1, Section II.A.4) for the following reasons: 1) startup is instantaneous; 2) process modifications are unlikely since the process is simple and straightforward and 3) the control equipment is structural, i.e. building or enclosures and adjustment or occasional cleaning is not relevant.

- The source shall be limited to a maximum process rate as listed below and all other activities, operational rates and numbers of equipment as stated in the application (condition 3).

  Processing and handling of fly ash, bottom ash, or conditioned product shall not exceed 120,000 tons/yr.

  Note that, only fly ash and the conditioned ash is processed through the fly ash conditioning system.

- Emissions of air pollutants shall not exceed the following limitations (condition 4):

PM	4.3 tons/yr
PM_{10}	2.69 tons/yr

- APEN reporting requirements (condition 6)

  The APEN reporting requirements will not be identified in the permit as a specific condition but are included in Section IV (General Conditions) of the permit, condition 22.e.

The Division determined that no Regulation No. 1 particulate matter standards were applicable. Operations at the fly ash conditioning system and MACS building are not considered fugitive emissions (PM requirements - Reg 1, Section III.D). The purpose of the fly ash conditioning system is to convert the fly ash, which is a by-product of PSCo's operation of their utility boiler, into a usable product. The technical review document to support the original Title V operating permit for PSCo Pawnee, indicated that Reg 1 particulate matter requirements for manufacturing processes (Reg 1, Section III.C) did not apply to the fly ash silo since the ash was a by-product and no "product" was made with it and that prior to disposal or removal for sale, it was not processed further. Although the purpose of the fly ash conditioning system is to convert the fly ash into a usable product, the Division still considers that the fly ash conditioning system is not a manufacturing process. The Division did not intend to consider such simple processing steps as manufacturing processes. In addition, the fly ash conditioning process, mixing water with ash, effectively reduces emissions. Therefore, the Division does not consider the fly ash conditioning system to be a manufacturing process and therefore the Reg 1 particulate matter requirements for manufacturing processes (Reg 1, Section III.C) don't apply. In addition, since the Division does not consider the fly ash conditioning system to be a manufacturing process, the state-only PM requirements in Reg 6, Part B, Section III (Standards of Performance for New Manufacturing Processes) are also not applicable.

2. Emission Factors - The fly ash conditioning process consists of two steps: transfer of the fly ash from the storage silo to the conditioner and transfer of conditioned ash to either a truck or to the floor of the MACS building and then loading into a truck.

For transfer of ash from the fly ash silo to the conditioning system, permitted emissions are based on emission factors from EPA's Compilation of Emission Factors (AP-42), Section 11.17, Table 11.17-4, Product Unloading - Enclosed Truck, dated February 1998, as indicated below. These emission factors are consistent with the emission factors used by PSCo for fly ash handling at Pawnee and their other coal-fired power plants.

PM = 0.61 lbs/ton
PM_{10} = 0.61 lbs/ton

A control efficiency of 95% is allowed since the transfer from the silo to the conditioner, since the screw conveyors and conditioner are enclosed.

For conditioned ash transfer, loading and unloading, the source used emission factors from the AWMA Air Pollution Engineering Manual (Second Edition, 2000), Table 1, page 693, for coal processing:

PM = 0.2 lbs/ton transferred or conveyed
PM_{10} = 0.072 lbs/ton transferred or conveyed

PM_{10} is presumed to be 0.36 x PM

The Division will allow control efficiencies as follows: 90% for the ash conditioning building for enclosed building (one transfer point for dumping from the conditioner to the building floor and one transfer point for loading trucks).

This is consistent with the emission factors used by PSCo for dumping fly ash at the ash pit at the Pawnee facility.

3. Monitoring Plan - The source shall be required to record fly ash/conditioned product throughput and calculate emissions monthly. In the absence of credible evidence to the contrary, opacity emissions from the fly ash conditioning system shall be presumed to be in compliance with the opacity requirements provided the integrity of the enclosures (conveyors, conditioner and building) is maintained.

4. Compliance Status - The Title V permit application indicates that the fly ash conditioning system and MACS building is in compliance with all applicable requirements.

B. Unit F001: Fugitive Particulate Matter Emissions from Transport, Storage and Blending Operations

1. Applicable Requirements - Sources of fugitive particulate emissions from the BMTI ash conditioning, handling and blending operations consist of hauling conditioned ash from the ash conditioner to the ash pit which serves as the site for storage and blending of bottom ash, conditioned ash, and occasionally rock. The bottom ash is hauled to the blending area from an on-site PSCo storage bay. The rock is hauled in from off-site. The bottom ash and conditioned ash (and rock, as needed) are blended and screened to create a beneficial reuse product – base course (e.g. road base). The base course is then loaded onto trucks and hauled off-site as product.

The Title V permit application indicates that the portable blending operation consists of open feeder hoppers, open conveyors, and open screens (scalping screen and sizing screen).

Fugitive particulate matter emissions from ash conditioning and blending are also addressed in Colorado Construction Permit 01MR0683. The appropriate applicable requirements from Colorado Construction Permit 01MR0683 for the fugitive particulate matter emissions from conditioned ash handling and blending are as follows:

- Visible emissions shall not exceed twenty percent (20%) opacity during normal operation of the source. During periods of startup, process modification, or adjustment of control equipment visible emissions shall not exceed 30% opacity

for more than six minutes in any sixty consecutive minutes (condition 1 and Reg 1, Section II.A.1 and 4).

Note that for fugitive emissions, the 20%/30% opacity requirements are not really applicable requirements but the 20% opacity serves as a guideline for the Division to require that a fugitive particulate emission control plan be revised. Therefore, the 20% opacity requirement will not be included in the permit.

- The source shall be limited to a maximum process rate as listed below and all other activities, operational rates and numbers of equipment as stated in the application (condition 3).

  Processing and handling of fly ash, bottom ash, or conditioned product shall not exceed 120,000 tons/yr.

  Note that at the blending site, only conditioned ash and bottom ash are processed. In addition, although not specified in the construction permit, BMTI may bring in rock as necessary. The Division will include rock in the Title V operating permit. Note that the processing of rock will not change the emission factors or permitted emissions.

- Emissions of air pollutants shall not exceed the following limitations (condition 4):

PM	18.7 tons/yr
PM_{10}	6.22 tons/yr

  Compliance with the emission limits will be presumed provided the quantity of the material handled is within the permit limits and that the provisions in the fugitive particulate matter control plan are followed.

- APEN reporting requirements (condition 6)

  The APEN reporting requirements will not be identified in the permit as a specific condition but are included in Section IV (General Conditions) of the permit, condition 22.e.

- The particulate emission control measures listed below shall be applied to the fugitive particulate emission producing sources as required by Regulation No. 1, Section III.D.1.b (condition 5):

  - Material stockpiles shall be watered as necessary to control fugitive particulate matter emissions. Materials shall be sprayed with water during material loading into trucks as necessary to control fugitive particulate matter emissions.

  - The plant entryway, truck service roads, and material handling areas shall be watered as necessary to control fugitive particulate matter emissions.

- Vehicle speed on haul roads and service roads shall be restricted to 20 miles per hour. Speed limit signs shall be posted.

- Dry fly ash shall not be stored in bulk open stockpiles.

- All active unpaved haul roads shall be watered daily to reduce visible emissions. Daily watering is not required when no haul trucks are using the unpaved roads, following rain or snow events that provide sufficient moisture to control fugitive dust, or when the application of water creates a safety hazard due to ice formation on the roads. Chemical stabilization of the unpaved road surfaces can also be used to reduce the need for daily watering.

  Since not all haul roads at Pawnee are utilized by BMTI, this control measure was revised to specify that the control measure only applies to the haul roads used by the permittee. It should be noted that in the Title V operating permit issued to PSCo, there is a similar control measure for watering active haul roads daily.

- The trucks transporting dry fly ash shall be fully covered to prevent emissions.

  It should be noted that BMTI is contracted by PSCo to haul dry fly ash off site. The dry fly ash is unloaded directly from PSCo's ash silo to an enclosed truck, using PSCo equipment. The dry fly ash unloading operation is included in the Title V operating permit issued to PSCo. Since BMTI would be hauling the dry fly ash, this control measure is included in the draft Title V operating permit for BMTI.

- The haul roads shall be inspected on a daily basis, and any spillage of materials shall be cleaned up as soon as practical to minimize fugitive particulate matter emissions.

  This control measure will be revised to be consistent with the daily watering requirement. Only active haul roads used by BMTI need to be inspected and daily inspection are not required if haul trucks are not using the haul roads.

The construction permit issued to BMTI did not provide for the processing of rock. The Title V permit application indicated that rock may be added in the blending process. The Division considers that the addition of rock in the blending process does not subject any of the blending equipment to the requirements in 40 CFR Part 60 Subpart OOO, since the BMTI operations do not meet the definition of a fixed or portable non-metallic mineral processing plant, since no crushing or grinding occur at the facility.

2. Emission Factors – Fugitive emissions are emissions that cannot reasonably pass through a stack, chimney, vent, or other functionally-equivalent opening. The presence of outdoor storage and handling of relatively fine particulate matter subjected to wind and mechanical devices results in fugitive emissions. The emissions of interest include particulate matter (PM) which is typically particulates with a relatively coarse size range and particulate matter less than 10 microns in diameter (PM_{10}).

Fugitive PM and PM_{10} emissions are subject to APEN reporting requirements but are not subject to annual fees. The Division will not require emission calculations for these fugitive emission sources on any specified frequency. However, these sources are subject to the requirements of APEN reporting and the source must comply with these requirements. The emission factors included in the following section identify the emission factors used to set the fugitive particulate matter emissions in the construction permit. These emission factors are included in Appendix G of the permit for informational purposes only.

Loading, unloading and Blending

For conditioned ash, bottom ash or rock transfer, loading and unloading, the source used emission factors from the AWMA Air Pollution Engineering Manual (Second Edition, 2000), Table 1, page 693 (emission factors for coal:

PM = 0.2 lbs/ton transferred or conveyed
PM_{10} = 0.072 lbs/ton transferred or conveyed

PM_{10} is presumed to be 0.36 x PM

This is consistent with the emission factors used by PSCo for dumping fly ash at the ash pit at the Pawnee facility. The Division will allow control efficiencies as follows: For dumping at the pit, blending, and loading and unloading, an efficiency of 50% is allowed for the materials (i.e. wetted (conditioned) fly ash, bottom ash that has a consistency of rock and rock) and for the blending site (i.e. a pit, with natural barriers).

The permitted emissions from loading, unloading and blending are based on the above emission factor and one transfer point. Based on the description of the process equipment in the Title V permit application, material may be dropped or transferred more than once and there are two screens for the material to pass through. However, the emission factors used in the preliminary analysis for the most recent construction permit are sufficiently conservative to allow that emissions be calculated considering only one transfer point. As a comparison, the Division considered that since the conditioned fly ash and the bottom ash have a rock-like consistency, the emissions could be estimated using AP-42 emission factors for crushed stone processing (Section 11.19-2, dated January 1995). Those emission factors for uncontrolled PM_{10} emissions for conveyor transfer points and screening are 0.0014 lbs/ton and 0.015 lbs/ton, respectively, which are much less conservative that the emission factor used to set the permit limits.

Roads

For travel on roads, the Division used the emission factors from AP-42, Section 13.2.2, dated September 1998, as follows:

$$E = \frac{k \times (s/12)^a \times (W/3)^b}{(M/0.2)^c}$$

where: E = particulate emissions, in lbs/VMT
VMT = vehicle miles traveled per year
k = constant, dimensionless, see table below
a = constant, dimensionless, see table below
b = constant, dimensionless, see table below
c = constant dimensionless, see table below
s = silt content of road surface material, in % (6.6%, per AP-42, Table 13.2.2-1, for municipal solid waste landfills, this value was used by PSCo for Pawnee emission estimates)
W = mean weight of vehicle, in tons (per initial approval application, W = 8 tons)
M = surface moisture content, % (1.45%, this value was used by PSCo for Pawnee emission estimates)

Constant	PM	PM_{10}
K	10	2.6
A	0.8	0.8
B	0.5	0.4
C	0.4	0.3

These emission factors are consistent with the emission factors used by PSCo for fugitive particulate matter emissions from vehicle traffic on unpaved road at the Pawnee facility. EPA published a revised AP42 Section 13.2.2 in November 2006. The unpaved industrial haul road section was revised. Since compliance with the fugitive emission requirements does not involve emission calculations the Division will not require that the revised emission equations be used. The source should be aware of this change.

3. Monitoring Plan - The source is subject to the APEN reporting requirements for fugitive particulate matter emissions from the storage, transport and blending operations. The Division will not require the source to calculate emissions on any specified frequency; however, the source is responsible for submitting revised APENs as specified by Regulation No. 3, Part A, Section II.C.

The BMTI transport, storage and blending operations are considered a new source and therefore, have a Division approved fugitive particulate matter control plan as required by Regulation No. 1, Section II.d.1.b. The certification submitted with the semi-annual monitoring and permit deviation reports shall serve as the compliance indicator that the source is meeting the requirements in their fugitive particulate matter control plan.

There is an annual processing rate limitation on the quantity of conditioned ash, bottom ash and rock that is transported, stored and blended. The source will be required to monitor and record the quantities of material processed monthly.

4. Compliance Status - The Title V permit application indicates that fugitive particulate matter emissions from ash conditioning and blending are in compliance with all applicable requirements.

C. SH001 - Son Haul Ash Processing Operations

1. Applicable Requirements - Fly ash is screened to separate larger pieces, the screen is powered by a diesel engine. According to the Title V permit application, the screen/engine commenced operation in 2009. Colorado Construction Permit 09PO0941 was issued for the screen/engine on September 25, 2009 as an initial approval permit and the permit was later modified to increase the ash processing to 25,000 tons per year. Final approval is being approved for this permit as part of the operating permit reissuance. A recent inspection in 2010 found the source to be in compliance with all permit terms. As part of the reissuance process the screen/engine portable permit was given a construction permit number so that a stationary AIRS ID number could be assigned. The stationary construction permit was not issued, rather the applicable requirements from 09PO0941 have been incorporated into this permit. It should be noted that there was an error in the Son Haul construction permit and an incorrect emission standard was included for the engine NSPS IIII. The error was in condition 7a which states: Emissions of Non-Methane Hydrocarbons and Nitrogen Oxides combined shall not exceed 4.70 grams per kilowatt-hour. The correct value should be 7.50 not 4.70, based on the manufacture date of the engine. The appropriate applicable requirements for the Son Haul screen/engine are as follows:

- Opacity requirements
- Processing and handling of fly ash, bottom ash, or conditioned product shall not exceed 35,000 tons/yr.
- Consumption of Diesel Fuel No. 2 for combustion in the engine shall not exceed 5,250 gallons per year
- Spray bars shall be used if material moisture content is insufficient to control particulate emissions
- Emissions of air pollutants shall not exceed the following limitations:

PM	0.51 tons/yr
PM_{10}	0.24 tons/yr

- Engine shall meet NSPS Subpart IIII requirements for emissions

In addition to NSPS III, this engine has also become subject to the area source MACT standard ZZZZ applicable to non-emergency engines less than 100 Hp. These standards require that proper operation and maintenance of these engines occur. However, § 63.6590(c) sates that: Stationary RICE subject to Regulations under 40 CFR Part 60. An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.

Section (c) (7) includes: A new or reconstructed compression ignition (CI) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

Consequently since the engine has already been shown to meet NSPS IIII, it is meeting the requirements of MACT ZZZZ. It should be noted that at the time of this permit action the Colorado Air Quality Control Commission has not adopted ZZZZ and it is only enforceable by the EPA.

2. Emission Factors – Appendix G of the operating permit lists the emission factors to be used for compliance purposes for the screen. Emissions for the engine do not need to be calculated because the emissions are below APEN reportable levels. The engine is included in the permit because Colorado regulations require NSPS sources to obtain construction permits before they can operate.

3. Monitoring Plan – Records shall be kept of the quantity of ash screened and amount of oil used. Additionally records shall be kept of the fuel quality required by condition 7.g. The emission limits in condition 7 are required for engines manufactured at the factory, these limits are not required to be tested in the field, proper operation and maintenance procedures shall be followed to demonstrate compliance with NSPS IIII limits.

4. Compliance Status - The Title V permit application indicates that fugitive particulate matter emissions from ash conditioning and blending are in compliance with all applicable requirements.

IV. Insignificant Activities:

General categories of insignificant activities include: in-house experimental or analytical laboratory equipment, chemical storage tanks/containers < 500 gal or storage areas < 5,000 gal, lube oil storage tanks (< 40,000 gal) and other storage tanks (limited throughput and contents) and fuel storage and dispensing equipment. Specific insignificant activities identified in the Title V permit application are listed below. The magnesium chloride storage tanks were added during the 2009 renewal.

<u>In-house experimental and analytical laboratory equipment (Reg 3 Part C.II.E.3.i)</u>

- In-house QA/QC lab

Chemical storage tanks or containers < 500 gal (Reg 3 Part C.II.E.3.n)

- Consumer-type chemical storage containers in consumer quantity sizes storing miscellaneous cleaning and maintenance chemicals (e.g. lubricants, WD-40)
- Petroleum products including hydraulic oil, grease, gasoline, fuel oil, engine additives, etc. for vehicle and equipment upkeep and operation (all in 55 gallon drum containers or smaller)

Operations involving acetylene, butane, propane or other flame cutting torches (Reg 3 Part C.II.E.3.kk)

- Torch and welding equipment

Venting of compressed natural gas, butane or propane gas cylinders, < 1 gal (Reg 3, Part C.II.E.3.zz)

- Small portable propane bottles for individual heating use

Fuel storage and dispensing equipment in ozone attainment areas throughput < 400 gal/day averaged over 30 days (Reg 3 Part C.II.E.3.ccc)

- Diesel fuel storage tank (500 gal)

Chemical storage areas where closed containers are used with storage capacities not exceeding 5,000 gallons total (Reg 3 Part C.II.E.3.mm)

- Two 2,000 gallon tanks and one 1,000 gallon tank for storage of magnesium chloride used for deicing roads in winter

V. Alternative Operating Scenarios

No alternative operating scenarios were requested for this facility.

VI. Permit Shield

The source did not request the permit shield for any non-applicable requirements.